

38 Prof. Yaoling Niu



Name: Yaoling Niu

Organization: Institute of Oceanology of the Chinese Academy of Sciences

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Education

B.A. Geology, Lanzhou University, Lanzhou, China, 1982

M.A. Economic Geology, The University of Alabama, China University of Geosciences, Wuhan, China, 1988

Ph.D. The Science of Geology and Geophysics, University of Hawaii, USA, 1992

Work Experience

- 12/04– Professor of Earth Sciences, Durham University, UK
- 01/03–12/04 Associate Professor, University of Houston (relinquished NERC Senior Research Fellowship), USA
- 01/01–12/02 Senior Research Fellow of the Natural Environmental Research Council (NERC) of the United Kingdom, Cardiff University (relinquished the tenured post in Queensland), UK
- 11/97–12/00 Senior Lecturer (with tenure) of Petrology, Geochemistry & Economic Geology, The University of Queensland, Australia
- 08/93–11/97 Lecturer of Petrology, Geochemistry & Economic Geology, The University of Queensland, Australia
- 01/96–03/96 Visiting Scientist at IFREMER, France
- 09/92–08/93 Postdoctoral Scientist, Columbia University, USA; Supervisor: Charlie H. Langmuir
- 05/92–08/92 Postdoctoral Scientist, University of Hawaii, USA; Supervisor: Rodey Batiza
- 12/88–05/92 Graduate Research Assistant, University of Hawaii, USA
- 01/88–12/88 Graduate Research Assistant, Northwestern University, USA
- 01/86–12/87 Graduate Research and Teaching Assistant, University of Alabama, USA
- 01/82–12/85 Assistant Lecturer of Economic Geology, Lanzhou University, China
- 08/83–07/84 Visiting Lecturer, Department of Geology, Nanjing University, China
- 08/83–12/85 Researcher, Institute for Development & Exploration, Lanzhou University, China

Research Interests

Fellowships, awards, honours & other qualifications

- 2010– Qianren Professorship, Honored by Chinese Government
- 2010– Christopherson/Knott Fellowship, Institute of Advanced Study, Durham University (http://www.dur.ac.uk/ias/christopherson_knott/fellows/niu/)
- 2009– Honorary Professor, Lanzhou University, Lanzhou, China

2009–2010: Leverhulme Research Fellowship, The Leverhulme Trust

2008– Guest Research Fellow, Guangzhou Institute of Geochemistry, Chinese Academy of Sciences, Guangzhou, China

2008– Fellow, The Geological Society of London

2006– Fellow, Geological Society of America

2005– Guest Professor, Peking University, Beijing, China

2005– Distinguished Guest Professor, China University of Geosciences, Beijing, China

2005– Concurrent Professor, Nanjing University, Nanjing, China

2004– Guest Professor, Northwest University, Xi'an, China

2003–2005: Visiting Professor, Peking University, Beijing, China

2002: Entitled and Awarded for Outstanding Overseas Chinese Scientist by the National Science Foundation of China (NSFC)

2001–2005: Senior Research Fellow of Natural Environmental Research Council (NERC, based at Cardiff University) of the United Kingdom

2000– Guest Research Fellow of Geochemistry, Tianjin Institute of Geology & Mineral Resources, China

2000: Qualified for “fonctions de professeur des universités arrêtées” in Structure et évolution de la Terre et des autres planètes, France

2000–2002: Australian ARC IREX Award.

1999– Guest Professor of China University of Geosciences, Beijing, China

1996– The University of Queensland Students' nomination for The most effective teacher of the year award in 1996.

01/96–03/96: Visiting Fellow by French Government for collaborative research with French Scientists at IFREMER, France

1992: Awarded prestigious Institutional Postdoctoral Fellowships by three Oceanographic Institutions: (1) Scripps Institution of Oceanography(declined); (2) Woods Hole Oceanographic Institution (declined); and (3) Lamont-Doherty Earth Observatory of Columbia University (accepted)

1992–1993: Postdoctoral Fellow awarded by Columbia University, USA

1991: Watumull Scholarship for Academic Excellence awarded by University of Hawaii, USA

1988–1992: Research Assistantship awarded by University of Hawaii, USA

1987–1988: The University Fellow for Academic Excellence awarded by Northwestern University, USA

1986–1987: Research Assistantship awarded by The University of Alabama, USA

1978–1981: Honored and awarded for The Excellent Student of the Year for three consecutive years by Lanzhou University, China

National/International committee services

2009– Member, Commission on Solid Earth Composition and Evolution (SECE)

2006–2009: Director, Geochemical Society (<http://www.geochemsoc.org/society/committeesandpersonnel/boardofdirectors.htm>)

2005– Member, Science Advisory Committee, Key National Laboratory of Isotope Geochronology and Geochemistry, Guangzhou Institute of Geochemistry, Chinese Academy of

Sciences, China

2005–2007: Member, NERC Peer Review College

2004–2008: Chairman, Commission on Solid Earth Composition and Evolution (SECE) of IUGS (<http://www.dur.ac.uk/sece> & <http://www.iugs.org/iugs/drectory/scicom.htm#sece>)

2002– Member, Chinese NSF Review Panel

1999– Founding member of IPACES (International Professionals for the Advancement of Chinese Earth Sciences)

1998–2000: Member, Ocean Drilling Program Australia Science Committee

1997–2000: Member, The University of Queensland EPSA Faculty Board

Major Publications

Niu, Y.L., R. Batiza., 1991. An empirical method for calculating melt compositions produced beneath mid-ocean ridges: Application for axis and off-axis (seamounts) melting, *Journal of Geophysical Research*, 96, 21,753-21,777.

Niu, Y.L., G. Waggoner, J.M. Sinton., J.J. Mahoney., 1996. Mantle source heterogeneity and melting processes beneath seafloor spreading centers: The East Pacific Rise 18° - 19° S, *Journal of Geophysical Research*, 101, 27,711-27,733.

Niu, Y.L., 1997. Mantle melting and melt extraction processes beneath ocean ridges: Evidence from abyssal peridotites, *Journal of Petrology*, 38, 1047-1074.

Niu, Y.L., R. Hékinian., 1997. Spreading rate dependence of the extent of mantle melting beneath ocean ridges, *Nature*, 385, 326-329.

Niu, Y.L., R. Batiza., 1997. Trace element evidence from seamounts for recycled oceanic crust in the eastern equatorial Pacific mantle, *Earth and Planetary Science Letters*, 148, 471-484.

Niu, Y.L., M. Regelous., J. I. Wendt., R. Batiza., M. J. O' Hara., 2002. Geochemistry of near-EPR seamounts: Importance of source vs. process and the origin of enriched mantle component, *Earth and Planetary Science Letters*, 199, 327-345.

Niu, Y.L., M.J. O' Hara., 2003. The origin of ocean island basalts (OIB): A new perspective from petrology, geochemistry and mineral physics considerations, *Journal of Geophysical Research*, 108, 19pp (pages ECV 5-1 to 5-19) doi: 10.1029/2002JB002048.

Niu, Y.L., M.J. O' Hara., J. A. Pearce., 2003. Initiation of Subduction Zones as a Consequence of Lateral Compositional Buoyancy Contrast within the Lithosphere: A Petrologic Perspective, *Journal of Petrology*, 44, 851-866.

Niu, Y.L., 2004. Bulk-rock major and trace element compositions of abyssal peridotites: Implications for mantle melting melt extraction and post-melting processes beneath ocean ridges, *Journal of Petrology*, 45, 2423-2458.

Niu, Y.L., R. Hékinian., 2004. Ridge suction drives plume-ridge interactions (Chapter 9), in *Oceanic Hotspots*, edited by R. Hékinian & P. Stoffers, pp. 257-279., Springer-Verlag, New York, USA (ISBN: 3-540-40859-2)

- Niu, Y.L., 2005. Generation and evolution of basaltic magmas: Some basic concepts and a hypothesis for the origin of the Mesozoic-Cenozoic volcanism in eastern China, *Geological Journal of China Universities*, 11, 9-46.
- Niu, Y.L., 2008. The origin of alkaline lavas, *Science*, 320, 883-884.
- Niu, Y.L., M.J. O' Hara, 2008. Global correlations of ocean ridge basalt chemistry with axial depth: A new perspective, *Journal of Petrology*, 49, 633-664.
- Niu, Y.L., M.J. O' Hara., 2009. MORB mantle hosts the missing Eu (Sr, Nb, Ta and Ti) in the continental crust: New perspectives on crustal growth, crust-mantle differentiation and chemical structure of oceanic upper mantle, *Lithos*, 112, 1-17.
- Niu, Y.L., M. Wilson., E.R. Humphreys., M.J. O' Hara., 2011, The origin of intra-plate ocean island basalts (OIB): The lid effect and its geodynamic implications, *Journal of Petrology*, 52, 1443-1468.